REMARKS

Claims 1-10 and 31 are currently pending. No new matter has been added herewith. The following addresses the substance of the Office Action.

The Applicants have amended Claim 1 to remove the limitation "at least three," since the limitation is not necessary to distinguish over the prior art. Support for removing this limitation is found in Original Claim 1.

Indefiniteness

Claims 5 and 31 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite. With regard to Claim 5, the limitation of "hours, days, weeks, months and any combination thereof" was found by the Examiner to not constitute a predetermined period of time. Claim 5 is amended to recite that the predetermined period of time at which said one or more biologically active agents are administered is "in the range from a plurality of hours to a plurality of months."

Turning to Claim 31, recitation of the limitation "wherein the sequentially increasing doses are 25, 50, 75, 100 or 4, 8, 32, 150 active units" did not have proper antecedent basis. The term "sequentially" has been replaced with "progressively" to address this objection. In addition, Claim 31 was dependent on Claim 4, which requires sequentially doubling doses of biologically active ingredients, but the dosages of Claim 31 do not sequentially double. Accordingly, Claim 31 has been amended to be dependent on Claim 1, which does not constrain progressive dosages to be doubled relative to a previous dosage.

In view of these amendments to the claims, the Applicants respectfully request removal of the rejection under 35 U.S.C. § 112, second paragraph.

Anticipation

Claims 1-3 and 5-9 were rejected under 35 U.S.C. § 102(b) as being anticipated by Hashmi et al. (WO 01/07079 A1). In drawing this conclusion, the Examiner has relied, in part, on the Abstract of Hashmi et al. where it states that the invention described in that document is directed to a vaccine formulation provided for the extended release of an antigenic material over time allowing a single administration to establish an active immunity in an animal, substantially equivalent to separately administered sensitizing and booster shoots according to conventional techniques. The Examiner particularly relied on a passage at page 11 lines 5-14 of Hashmi et al. where it states that an initial sensitizing boost is followed by a booster at 3 months and a second

booster at 9-15 months. This section of Hashmi et al. states that these boosters can result from "a higher release rate."

However, Hashmi et al. does not relate to release of progressively increasing doses, as recited in the pending claims. In this regard, it is important to distinguish between the "release rate" and the size of the dose that is ultimately released. It will be apparent to those having ordinary skill in the art that the size of the dose released will be equal to the rate of release multiplied by the time of release. Thus, if the time of release is quite short, the dose released can be quite small even if the rate of release is high. As a result, while the Hashmi et al. reference does state at page 11, lines 15-16 that "a higher release rate may be released to act as a 'booster'," this in no way requires that the booster releases a higher dose than the original dose.

It will be apparent to one having ordinary skill in the art that the dosage released in the "boosters" of Hashmi et al. are, in fact, lower than the original dose. Hashmi et al. is concerned with an initial sensitizing dose followed by a booster dose. According to "The Free Dictionary" on the internet at http://medical-dictionary.thefreedictionary.com/Dose+%28disambiguation%29, "a booster dose is a dose of an active immunizing agent, usually smaller than the initial dose, given to maintain immunity." In accordance with this definition and referring to Figure 3 of Hashmi et al., the areas under booster peaks are smaller than the corresponding area under the sensitizing peaks. These areas under the curve will reflect the total dose released. Thus, Figure 3 makes clear that the subsequent "boosters" are actually smaller in dose than the original dose.

Hashmi et al. also states at page 9, lines 29-31 and page 11, lines 15-17 that care should be taken so that the release amount does not result in desensitizing the subject to released antigenic material. Accordingly, Hashmi et al. teaches that the dose released in the booster should be kept small to prevent such desensitization to occur. As such, Hashmi actually teaches away from the increased dosage in a subsequent dose that is recited in the presently pending claims.

Further, at page 17 lines 27 to page 18 line 8 of Hashmi et al., Hashmi et al. discloses a solid tablet that is configured with different portions having different release rates; not increased dosages of the same drug. This passage states that the differing release rate characteristics can be controlled by adjusting the dissolution rate of the matrix for each portion using conventional techniques. There is no indication at all that the total amount released is increased in subsequent doses.

By way of contrast with Hashmi et al., the present invention as claimed in claim 1 is specifically directed to progressively increasing doses of a biologically active agent. For example, page 18, lines 9-14 of the Specification as filed recites that progressively increasing doses (PIRS III) was clearly more effective in stimulating an early antibody response compared to conventional vaccinations. Thus, while Hashmi et al. is concerned with a single administration of a vaccine formulation that provides an initial dose followed by smaller "booster" dosages of antigen, the present invention is concerned with a single administration of progressively increasing dosages of an antigen. Thus, Hashmi et al. does not anticipate the subject matter claimed and removal of the rejection is respectfully requested.

Obviousness

Claims 4 and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hashmi et al., *supra*. The Examiner regards claims 4 and 10 as being obvious in light of Hashmi et al. on the basis that it would have been obvious to a person of ordinary skill in the art to make adjustments to adjust "the increasing dosages" as taught by Hashmi et al. through routine experimentation. However, as discussed above, Hashmi et al. does not teach administration of progressively increasing doses.

It is not obvious to utilize progressively increasing dosages as it goes against the conventional wisdom of administering a sensitizing dosage followed by one or more smaller booster dosages. It is well known in the art that a booster dosage is a dose of an active immunization agent, usually smaller than the initial dose, which is given to maintain immunity. Thus, one of skill in the art would not have a reason to develop a method in which progressively increasing doses of a biologically active agent were administered. As mentioned above, Hashmi et al. teaches that care should be taken so that the release amount does not result in desensitizing the subject to released antigenic material. As such, Hashmi et al. teaches away from an increased dosage in subsequent doses. Accordingly, the claims are not obvious in view of Hashmi et al. and removal of the rejection under 35 U.S.C. § 103(a) is respectfully requested.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, the Applicants are not conceding in this application that previously pending claims are not patentable over the cited references. Rather,

any alterations or characterizations are being made to facilitate expeditious prosecution of this application. The Applicants reserve the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that the Applicants have made any disclaimers or disavowals of any subject matter supported by the present application.

In view of Applicants' amendments to the specification and claims, and the foregoing remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

CONCLUSION

In view of Applicants' amendments to the claims and the foregoing remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: 27 May 2008

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